



P.B.5818 - Patentamt 2  
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Europäisches  
Patentamt

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12. Jan. 2006

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Date

11.01.06

Reference  
EP 25512-034/zp

Application No./Patent No.  
02023604.8 - 2218

Applicant/Proprietor  
MICROSOFT CORPORATION

#### COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report (under R. 44 or R. 45 EPC) for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

- ☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division :

- ☒ Abstract ☒ Title

- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract : 1

#### Refund of search fee

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
1 X ✓	WO 99/52080 A (SYNAPIX, INC) 14 October 1999 (1999-10-14) * page 8, line 28 - line 33 * * page 31, line 14 - line 28 * * page 33, line 10 - line 21 * * page 42, line 10 - line 19 *	1-75, 77-107	606T1/00
2 X ✓	HYUN SUK KIM ET AL: "SCENE GRAPH FOR DYNAMIC VIRTUAL ENVIRONMENT: SPANGRAPH" INTERNATIONAL JOURNAL OF VIRTUAL REALITY, IPI PRESS, COLORADO SPRINGS, CO, US, vol. 4, no. 2, 2000, pages 12-18, XP001039706 ISSN: 1081-1451 * page 16, column 2 *	1-28, 94-98	
3 X ✓	RIKK CAREY, GAVIN BELL, CHRIS MARRIN: "International standard iso/iec 14772-1: 1997 virtual reality modeling language (vrml97)" VRML 97, 1997, pages 1-236, XP002133320 page 7, paragraph 3.18; pages 89-93, section 6.20; page 149, paragraph B.2	29-75, 77-93, 99-107	TECHNICAL FIELDS SEARCHED (IPC) 606T
4 X ✓	WO 99/00725 A (SUN MICROSYSTEMS, INC) 7 January 1999 (1999-01-07) * abstract *	1-28, 94-98	
5 X ✓	US 6 266 053 B1 (FRENCH MICHAEL T ET AL) 24 July 2001 (2001-07-24) * column 5, line 26 - column 6, line 5 * * column 4, line 49 - line 52 * * column 5, lines 50-54 * * column 14, line 10 - line 26 *	1-75, 77-107	
6 X ✓	US 6 154 215 A (HOPCROFT ET AL) 28 November 2000 (2000-11-28) * columns 1,2 *	1-28, 94-98	
-/-			
The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 30 December 2005	Examiner Kulak, E
CATEGORY OF CITED DOCUMENTS			
<p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  I : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 02 02 3604

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
7 X ✓	US 6 215 495 B1 (GRANTHAM BRAD ET AL) 10 April 2001 (2001-04-10) * abstract * * column 2 - column 5 * * column 2, line 18 - line 22 *	29-70, 102-107	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 30 December 2005	Examiner Kulak, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier published document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 02 3604

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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30-12-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9952080	A	14-10-1999	AU 3207299 A	25-10-1999
			US 6266053 B1	24-07-2001
			US 2002032697 A1	14-03-2002
WO 9900725	A	07-01-1999	CN 1236453 A	24-11-1999
			EP 0932863 A1	04-08-1999
			JP 2002501649 T	15-01-2002
			US 5924098 A	13-07-1999
US 6266053	B1	24-07-2001	AU 3207299 A	25-10-1999
			WO 9952080 A1	14-10-1999
			US 2002032697 A1	14-03-2002
US 6154215	A	28-11-2000	NONE	
US 6215495	B1	10-04-2001	NONE	



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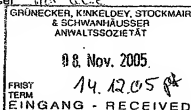
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Date  
04-11-2005

Reference EP 25512-034/zp	Application No./Patent No. 02023604.8 - 2218	PCT/
Applicant/Proprietor MICROSOFT CORPORATION		

#### COMMUNICATION

The European Patent Office herewith transmits the partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The Search Division informs the applicant that if the European search report is also to cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within one month after notification of this communication.

If the application has been filed up to 30 June 1999, the search fee in force before 01 July 1999 (EUR 869,-) or the equivalent applicable on the date of payment is payable.  
This applies also to the search fees requested under Rule 46(1) EPC.  
See also OJ EPO 06/1999, 405.

- ☐ The abstract was modified by the Search Division and the definitive text is attached to the present communication.
- ☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

#### Note to users of the automatic debiting procedure:

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement 2 to OJ EPO 01/2005.





European Patent  
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**PARTIAL EUROPEAN SEARCH REPORT**  
under Rule 46, paragraph 1 of the European Patent  
Convention

Application Number

EP 02 02 3604

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
(1) X ✓	HYUN SUK KIM ET AL: "SCENE GRAPH FOR DYNAMIC VIRTUAL ENVIRONMENT: SPANGRAPH" INTERNATIONAL JOURNAL OF VIRTUAL REALITY, IPI PRESS, COLORADO SPRINGS, CO, US, vol. 4, no. 2, 2000, pages 12-18, XP001039706 ISSN: 1081-1451 * page 16, column 2 *	1-28, 94-98	606T1/00
(2) X ✓	WO 99/00725 A (SUN MICROSYSTEMS, INC) 7 January 1999 (1999-01-07) * abstract *	1-28, 94-98	
(3) X ✓	US 6 266 053 B1 (FRENCH MICHAEL T ET AL) 24 July 2001 (2001-07-24) * column 5, line 26 - column 6, line 5 *	1-28, 94-98	
(4) X ✓	US 6 154 215 A (HOPCROFT ET AL) 28 November 2000 (2000-11-28) * columns 1, 2 *	1-28, 94-98	
(5) A ✓	WO 99/52080 A (SYNAPIX, INC) 14 October 1999 (1999-10-14) * the whole document *	1-28, 94-98	TECHNICAL FIELDS SEARCHED (Int.Cl.7) 606T
<b>LACK OF UNITY OF INVENTION</b> <p>The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:</p> <p>see sheet B</p> <p>The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.</p>			
Place of search		Date of completion of the search	Examiner
Berlin		19 October 2005	Kulak, E
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		A : member of the same patent family, corresponding document	

EP 02 02 3604 (PAC/27)

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-28,94-98

Changing a visual scene graph data structure by atomic operations

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2. claims: 29-48

Changing and maintaining a scene graph data without external reference.

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3. claims: 49-64

Determining and maintaining a scene graph data which does not require an external reference.

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4. claims: 65-70,102-107

A cache structure which maintains visual information in containers in a format independent of receiving entity and a renderer component which traverse the cache to produce processed data in a format to be understood by the receiving entity.

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5. claims: 71-75,77-81

Marking an invalid container in a cache structure.

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6. claims: 82-93,99-101

Reserving an invalid container in a visual information cache structure and determining whether the graphics information of the invalid container is needed and if so, outputting the data.

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 02 3604

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19-10-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			EP 0932863 A1	04-08-1999
			JP 2002501649 T	15-01-2002
			US 5924098 A	13-07-1999
US 6266053	B1	24-07-2001	AU 3207299 A	25-10-1999
			WO 9952080 A1	14-10-1999
			US 2002032697 A1	14-03-2002
US 6154215	A	28-11-2000	NONE	
WO 9952080	A	14-10-1999	AU 3207299 A	25-10-1999
			US 6266053 B1	24-07-2001
			US 2002032697 A1	14-03-2002